

CLAIMS:

What is claimed is:

1 1. A method for establishing communication between a
2 master computer system and a plurality of slave computer
3 systems coupled to a common communication channel, said
4 method comprising:

5 directing a session request, by a master computer
6 system, to a plurality of slave computer systems through a
7 common communication channel;

8 Sub A1 receiving and responding to the session request by
9 the plurality of slave computer systems;

10 after the plurality of slave computer systems
11 responds, requesting, by the master computer system, to
12 establish communication with a particular slave computer
13 system among the plurality of slave computer systems; and

14 after the master computer system requests to
15 establish communication with the particular slave computer
16 system, maintaining communication between the master
17 computer system and only the particular slave computer
18 system.

1 2. The method according to Claim 1, wherein requesting,
2 by the master computer system, to establish communication
3 with the particular slave computer system further
4 comprises:

5 assigning an unique identification number to each of
6 the slave computer systems; and

7 using the unique identification number, by the master
8 computer system, to establish the communication with the
9 particular slave computer system.

1 Sub A1 3. The method according to Claim 2, wherein using the
2 unique identification number, by the master computer
3 system, to establish the communication with the particular
4 slave computer system further comprises:

5 storing the unique identification number into a non-
6 volatile memory device of each of the slave computer
7 systems;

8 storing the unique identification number for each of
9 the slave computer systems and an identity of the slave
10 computer systems associated to the unique identification
11 number into a table that is stored in a memory device of
12 the master computer system; and

13 sending a request from the master computer system
14 with the unique identification number of the particular
15 slave computer system.

1 4. The method according to Claim 1, wherein maintaining
2 only the communication between the master computer system
3 and the particular slave computer system further
4 comprises:

5 maintaining the master computer system and the
6 particular slave computer system as both being connected
7 to the communication channel; and

8 disconnecting all other slave computer systems except
9 the particular slave computer system from the
10 communication channel.

1 5. The method according to Claim 1, further comprising:

2 3 Sub A1
3 4 after communication is established between the master
4 5 computer system and the particular slave computer system,
 using the master computer system to command the particular
 slave computer system.

5 6. The method according to Claim 1, wherein directing the
 session request, by the master computer system, to the
 plurality of slave computer systems through the common
 communication channel further comprises:

6 7 directing the session request, by the master computer
 system, to the plurality of slave computer systems through
 a serial communication channel.

7 8. The method according to Claim 1, wherein receiving and
 responding to the session request by the plurality of
 slave computer systems further comprises:

8 9 receiving the session request through a communication
 switching device that is provided for each of the
 plurality of slave computer systems in which each of the
 communication switching device is initially set to a
 receive mode that awaits receipt of the session request;
 and

10 changing the communication switching device for the

11 each of the plurality of slave computer systems from the
12 receive mode to an answer mode that answers the session
13 request.

1 8. The method according to Claim 7, wherein responding to
2 the session request and maintaining communication between
3 the master computer system and only the particular slave
4 computer system further comprises:

5 Sub A1
6 maintaining the communication switching device for
7 the particular slave computer system in the answer mode;
and

8 setting the communication switching device for each
of the other slave computer systems from the answer mode
back to the receive mode.

1 9. A method for establishing communication between a
2 slave computer system and a master computer system coupled
3 to a common communication channel, said method comprising:

4 receiving and responding, by a slave computer system,
5 to a session request from a master computer system;

6 determining, by the slave computer system, whether
7 the session request is for the slave computer system;

8 Sub A1 in response to the session request being for the
9 slave computer system, maintaining communication between
10 the master computer system and only the slave computer
11 system; and

12 in response to the session request not being for the
13 slave computer system, disconnecting communication between
14 the master computer system and the slave computer system.

1 10. A system for establishing communication between a
2 slave computer system and a master computer system coupled
3 to a common communication channel, said slave computer
4 system comprising:

5 a slave processor, a slave memory device, and a
6 communication device all coupled to a communication bus
7 wherein the communication device is able to couple to a
8 common communication channel;

9 wherein the communication device receives and
10 responds to a session request from a master computer
11 system;

12 wherein the slave processor determines whether the
13 session request is for the slave computer system;

14 wherein, in response to the slave processor
15 determining that the session request is for the slave
16 computer system, the slave processor maintains
17 communication between the master computer system and only
18 the slave computer system; and

19 wherein, in response to the slave processor
20 determining that the session request is not for the slave
21 computer system, the slave processor disconnects
22 communication between the master computer system and the
23 slave computer system.

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1 11. The system according to Claim 10, wherein:

2 the slave computer system is assigned an unique
3 identification number that is able to be used by the
4 master computer system to establish the communication with
5 the slave computer system.

1 12. The system according to Claim 11, wherein:

2 the slave memory device further comprises a non-
3 volatile memory device and the unique identification
4 number is stored into the non-volatile memory device.

Sub A1 13. The system according to Claim 10, wherein:

2 in response to the slave processor determining that
3 the session request is for the slave computer system, the
4 slave computer system is maintained as being connected to
5 the communication channel.

1 14. The system according to Claim 10, wherein:

2 after communication is established between the slave
3 computer system and the master computer system, the slave
4 computer system receives and executes commands from the
5 master computer system.

1 15. The system according to Claim 10, wherein the common
2 communication channel is a serial communication channel.

1 16. The system according to Claim 10, wherein:

2 the communication switching device is initially set
3 to a receive mode that awaits receipt of the session
4 request;

6 the communication switching device receives the
7 session request; and

8 the communication switching device is switched from
9 the receive mode to an answer mode that answers the
10 session request.

1 Sub A1
17. The system according to Claim 16, wherein:

2 in response to the slave processor determining that
3 the session request is for the slave computer system, the
4 communication device is maintained for the slave computer
5 system in the answer mode.

1 18. A program product for establishing communication
2 between a slave computer system and a master computer
3 system coupled to a common communication channel, said
4 program product comprising:

5 a control program encoded with and having the steps
6 of:

7 receiving and responding, by a slave computer system,
8 to a session request from a master computer system;

9 determining, by the slave computer system, whether
10 the session request is for the slave computer system;

11 in response to the session request being for the
12 slave computer system, maintaining communication between
13 the master computer system and only the slave computer
14 system; and

15 in response to the session request not being for the
16 slave computer system, disconnecting communication between
17 the master computer system and the slave computer system;
18 and

19 computer usable media bearing said control program.

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1 19. The program product according to Claim 18, wherein
2 said control program further comprises the step of:

3 using an unique identification number assigned to the
4 slave computer system and stored into a memory device of
5 the slave computer system to establish the communication
6 with the slave computer system and the master computer
7 system.

1 20. The program product according to Claim 18, wherein
2 said control program further comprises the step of:

Sub A1
3 in response to the session request being for the
4 slave computer system, maintaining the connection between
5 the slave computer and the communication channel.

6 21. The program product according to Claim 18, wherein
7 said control program further comprises the step of:

8 after establishing communication between the slave
9 computer system and the master computer system, receiving
10 and executing, by the slave computer system, commands from
11 the master computer system.

1 22. The program product according to Claim 18, wherein
2 said control program further comprises the steps of:

3 initially setting the communication device to a
4 receive mode that awaits receipt of the session request;

5 receiving, by the communication device, the session
6 request; and

7 switching the communication device from the receive
8 mode to an answer mode that answers the session request.

1 23. The program product according to Claim 22, wherein
2 said control program further comprises the step of:

3 in response to the session request being for the
4 slave computer system, maintaining the communication
5 device for the slave computer system in the answer mode.

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